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Fish and Wildlife Service  
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Hadley, MA 01035-9589



United States Department of Commerce  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
55 Great Republic Drive  
Gloucester, MA 01930-2276

APR 19 2012

In Reply Refer To:  
FWS/Region 5/ES

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(Canadian Co-Chair)  
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MSC Operations - ATL  
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International Joint Commission  
U.S. Section  
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Colonel Charles P. Samaris  
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U.S. Army Corps of Engineers  
New England District  
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Concord, MA, USA 01742-2751

Joseph Comuzzi  
(Chair, Canadian Section to IJC)  
International Joint Commission  
Canadian Section  
234 Laurier Avenue West, 22nd Floor  
Ottawa, ON K1P 6K6

Dear Commissioners:

We are writing to convey a plan for restoring passage of alewives into the St. Croix River. This plan has been developed by consensus among the Federal natural resource agencies with interests in the St. Croix River: the U.S. Fish and Wildlife Service, Region 5 (FWS); the U.S. Environmental Protection Agency, Region 1; and the National Marine Fisheries Service, Northeast Region (NMFS). This plan was developed at the request of the U.S. State Department to articulate the U.S. Government's position on the resource needs for alewife passage on the St. Croix River.

As you may know, NMFS was recently petitioned to list river herring (including alewives) as a threatened species under the U.S. Endangered Species Act. A review of the species' status is underway. Any recent or new information relating to potential changes in the management of fish passage on the St. Croix River would be most welcome during this process.

The St. Croix River is clearly important from a biological perspective given its production capacity, but also because of its status as a border river with Canada. We have previously expressed our strong desire to reopen access for river herring to and from important spawning and rearing habitat on the St. Croix River (see enclosed letters from Patricia Kurkul to Colonel Feir, dated July 26, 2010; and from Marvin Moriarty to Colonel Feir, dated July 19, 2010). We would like to take this opportunity to reiterate our support for removing the blockage at Grand

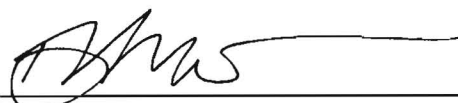
Falls Dams and reopening the St. Croix River to river herring. We look forward to a continuing and productive dialog on this issue.

We would be very pleased if our staffs could assist you with this important matter. If you, or your staff, have questions about the content of this plan, please contact Rory Saunders of NMFS or Sandra Lary of FWS. Mr. Saunders can be reached by telephone at 207-866-4049 and by electronic mail at [Rory.Saunders@noaa.gov](mailto:Rory.Saunders@noaa.gov). Ms. Lary can be reached by telephone at 207-781-8364 and by electronic mail at [Sandra\\_Lary@fws.gov](mailto:Sandra_Lary@fws.gov).

Sincerely,



Wendi Weber  
Regional Director, Northeast Region  
U.S. Fish and Wildlife Service  
Department of the Interior



Dan Morris  
Acting Regional Administrator  
National Marine Fisheries Service  
National Oceanic and Atmospheric  
Administration

Enclosures

## A Proposal to Restore Alewife Passage to the St. Croix River

March 30, 2012

Co-sponsored by the National Marine Fisheries Service, US Fish and Wildlife Service, and the Environmental Protection Agency

This proposal applies to all dams in the lower St. Croix watershed basin up to and through the Grand Falls dam. The proposal seeks to:

- Allow free passage of sea-run fish (including alewives) to the St. Croix in a phased approach (see below) above the Milltown, Woodland and Grand Falls Dam and into the Grand Falls Flowage pursuant to the schedule in Table 1;
- Facilitate dialog among stakeholders, agencies, and the IJC;
- Ensure collection and dissemination of scientific information.

Table 1. Escapement goals (counted at Milltown) for the St. Croix River.

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Alewife Escapement Goal <sup>1</sup>	146,000	219,000	329,000	493,000	740,000	1,100,000	1,665,000	2,497,000	3,745,000	4,500,000

The escapement numbers (counted at Milltown) should be considered as minimum values for which Grand Falls would remain open for passage. In other words, the Federal Government would seek unrestricted fish passage at Grand Falls in any year at least up to and including the escapement number identified in that year. This is not to suggest that Maine should restrict passage at Grand Falls when these escapement numbers are eventually reached, but only that the Federal Government's resource goals would be at least minimally satisfied to the extent that Maine left passage open until these numbers were reached in any given year. The escapement goals above are rough approximations of the densities previously agreed to in the IJC discussions on this issue (i.e., allowing roughly 50% increases per year).

This proposal also seeks to ensure a dialog on this issue by requesting a meeting of the St Croix Fisheries Steering Committee on an annual basis concurrent with meetings of the St. Croix River Board. The meeting of the Fisheries Steering Committee would entail the following agenda items:

- Results of current year's monitoring of alewife abundance
- Results of ongoing fish community studies undertaken by state, provincial, and federal agencies

In 2021, this agreement would be re-visited with oversight from the IJC.

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<sup>1</sup> Escapement can be defined as the total number of adult sea-run fish returning to spawn and contribute to a sustainable population.



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
NORTHEAST REGION  
55 Great Republic Drive  
Gloucester, MA 01930-2276

JUL 26 2010

Colonel Philip T. Feir  
U.S. Army  
U.S. Co-Chair  
International St. Croix River Watershed Board  
696 Virginia Road  
Concord, MA 01742-2751

Dear Colonel Feir:

Thank you for your letter from June 9, 2010 conveying the recent draft of the Adaptive Management Plan for Managing Alewife in the St. Croix River Watershed, Maine and New Brunswick (the plan). For the reasons explained below, we request that the IJC utilize its authority to prevent further declines and to facilitate recovery of depleted river herring by requiring free and open access for these species in the St. Croix River.

NOAA's National Marine Fisheries Service (NMFS) recognizes the importance of this watershed to alewife and blueback herring (collectively, referred to as "river herring"), which recently numbered in the millions. In the past, we have expressed concern over fishway closures and the decline of river herring in the St. Croix River Watershed. River herring populations are in decline throughout the northeast range between New Brunswick and Florida (ASMFC 2009), and are presently listed by NMFS as a species of concern. Now is clearly the time to advance river herring recovery in this very important, international waterway.

We understand and appreciate that balancing river herring recovery and smallmouth bass interests is a complicated issue. The steps that were taken to prevent river herring access to historical habitat were taken due to concern over their potential impact on non-native, introduced smallmouth bass. While we recognize the economic and social importance of Maine's smallmouth bass fishery, we believe that a priority must be placed on recovery of the native river herring - commercially and ecologically important species in their own right. We also believe that a restored and healthy river herring population and a vibrant smallmouth bass fishery are not mutually exclusive.

River herring are important to the connectivity of freshwater, estuarine and marine ecosystems. These fish play many important roles in food webs, particularly since they provide forage for a number of other commercially and recreationally important species such as Atlantic cod, bluefish, and striped bass (Collette and Klien-MacPhee 2002) as well as in shaping lake zooplankton community structure (Post et al. 2008). A diverse zooplankton community impacts the structure and function of lake ecosystems and re-





establishment of a native species can influence overall lake productivity and resilience to abiotic stressors.

We understand that the IJC is advancing the plan in the interest of seeking a compromise to move beyond the situation that was initiated in 1995 when the Maine State Legislature closed fishways at the Grand Falls and Woodland Dams on the St. Croix River. We remain concerned that the endorsement of this plan by the IJC will not, by itself, lead to the implementation of recovery of river herring in the St. Croix watershed. Many other actions would be required, including commitments of resources by a variety of agencies and stakeholders as well as action by the Maine State Legislature. While we were supportive of the effort to attempt to draft an adaptive management plan, in our view this plan would significantly decrease the potential for river herring recovery or, at a minimum, result in significant delays without assurance that alewife target population levels would be achieved. This is assuming that the plan as written would be implemented, without any further weakening, through the Maine State Legislature which may be unlikely given the history on this issue.

Our clear preference is to advance river herring recovery without constraints imposed by smallmouth bass populations, as would occur under the plan as drafted. We do, however, support the efforts of the IJC and the International St. Croix River Watershed Board to find a way forward in a timely fashion. The decline in river herring returns has been dramatic and drastic, and we believe that it is essential that passage be restored prior to the 2011 run. This action would be most efficiently and effectively achieved by the IJC exercising its authority to require free and open access to river herring in the St. Croix. Recent studies indicate that river herring and smallmouth bass can co-exist in the St. Croix River and we would support collaborative monitoring and evaluation to improve our understanding of interactions as river herring recovery continues.

In recognition of the unique circumstances in this case and the request from the IJC for comments on the plan, we offer the following observations. This should not be taken as an endorsement of this plan or to set any precedent in any other circumstances that the needs of native sea-run species should be compromised for other species.

**Specific Comments on the Draft Management Plan:**

**Technical Issues:**

We are concerned that the proposed monitoring level is insufficient to properly attribute any reduction in year class strength of smallmouth bass to rebounding alewife populations. A myriad of factors could contribute to smallmouth bass year class failure (including precipitation patterns, water management, and intra-specific competition). None of these other factors would be specifically evaluated. It appears that the working assumption is that any smallmouth bass year class failure will be attributable to alewives if the year class failure cannot be attributed to broad scale environmental factors. Constraining alewife recovery remains a concern because alewife abundance will not be allowed to increase even if they are not the cause of the smallmouth bass year class failure. This is an inappropriate placement of the burden of proof.



Accumulating scientific evidence shows that recovered populations of native river herring can and do co-exist with high-quality smallmouth bass fisheries. The stated purpose of the plan is to restore the sea-run alewife while maintaining the basin's smallmouth bass fishery at current or higher levels. Under the plan, recovery thresholds for river herring are based directly on a population metric of smallmouth bass. As such, the initial target of six alewife per acre would result in an expected population of about 145,000 in the accessible part of the basin. Depending on smallmouth bass year-class strength, alewife could be held at this level, which represents only 3.3% of the recovery goal of 4.45 million. For reference, the Strategic Plan for the Restoration of Diadromous Fishes to the Penobscot River prepared by the Maine Department of Marine Resources and the Department of Inland Fisheries and Wildlife uses a production estimate for alewives of 235 fish per acre, which is composed of an escapement target of 35 fish per acre and a commercial harvest of 200 fish per acre. We disagree with constraining alewife recovery by using a smallmouth bass recruitment index that is dependent upon many factors independent of alewife abundance. Our preference is for accelerated and unimpeded recovery of river herring, principally alewife in this portion of the species coastal distribution, through complete, safe and timely passage at all anthropogenic barriers in the St. Croix watershed.

In reviewing and assisting with the development of the plan, we believe that additional emphasis on both upstream and downstream passage efficiency is needed. There are currently no credible estimates of either upstream or downstream fish passage efficiency at any of the fishways in the St. Croix River. These data are critical to assessing progress toward the goals of the plan. NMFS encourages the IJC, other natural resource agencies involved in the St Croix watershed, and the dam owners to begin the necessary assessments. NMFS encourages the IJC to add in the following implementation task to table 8: "Evaluate upstream and downstream fish passage effectiveness for alewives at the Milltown and Grand Falls fishways." NMFS is prepared to assist the IJC and other natural resource agencies in this endeavor.

#### **Policy Issues:**

Concerns over negative impacts of alewives on smallmouth bass, regardless of whether these concerns are supported by the science, have lead to the policies and practices currently in place which have resulted in a precipitous decline of alewives. The St. Croix river herring population is two orders of magnitude less than it was just twenty years ago, having been reduced from 2.6 million in 1988 to only 12,000 in 2008 at the Milltown fishway (IJC 2008; Flagg 2006). Conservation efforts to reverse the restrictive policies and restore alewife failed. In response to conservation interests to restore herring populations, the IJC requested the inter-agency St. Croix Fisheries Steering Committee propose an adaptive management plan for restoring alewives to the St. Croix watershed. Implementation of the plan would lead to some rebuilding of river herring populations in the St. Croix watershed through time, and that is certainly an important step forward. However, there are several troubling aspects to the plan that we cannot support. Rather than basing river herring recovery thresholds on a single metric related to a non-native species, NMFS prefers a more modern and integrated ecosystem approach. The plan's ceiling on river herring populations is directly related to population metrics of



smallmouth bass. Thus, we have serious concerns that a single non-native species is driving the management regime in the St. Croix watershed. This imbalance is evident since river herring are important to a variety of state and federally managed resources, including Atlantic salmon, American lobster, as well as those species mentioned earlier (State of Maine 2006; Collette and Klien-MacPhee 2002).

NMFS cannot support agreements that would maintain fish passage barriers to historic spawning and rearing habitat for native sea-run species. Spednic Lake and West Grand Lake and areas upstream of those lakes are not being considered for free access by native sea-run fish such as river herring. These areas represent tens of thousands of acres of suitable spawning and rearing habitat for river herring. In order for NMFS to fully support the plan, the plan must include specific timelines for re-opening historic habitat in the watershed. NMFS encourages the IJC to re-draft the plan with a timeline for implementing this goal. NMFS will provide staff and expertise necessary to assist the IJC in this endeavor.

Despite reservations noted, there are many aspects of the plan that are a positive step toward science-based management in the St. Croix watershed. NMFS strongly supports the IJC in its efforts to facilitate open dialog regarding fishery management in the St. Croix watershed. The development and ultimate implementation of a plan are important components of that increased information exchange and dialog. To enhance the already ongoing dialog, NMFS encourages the IJC to commit to re-visiting whatever plan is adopted annually with major re-evaluations of the underlying assumptions and overarching goals every five years. A primary tenet of adaptive management is taking new information into all aspects of decision making as it becomes available. Implementing this type of formal re-evaluation would greatly enhance the credibility of any management actions that are ultimately taken. NMFS will provide staff and expertise necessary to assist the IJC in this endeavor.

#### **Conclusions:**

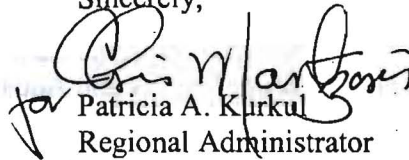
NMFS fully supports accelerated and unimpeded recovery of river herring through complete, safe and timely passage at all anthropogenic barriers in the St. Croix watershed. We believe that securing passage prior to the 2011 run is an essential first step to recovery of this depleted species. The most efficient way to achieve that is for the IJC to re-open its orders of approval to allow free access of river herring to all historically accessible areas of the basin subject to IJC jurisdiction. We urge the IJC to take this action as soon as possible.

We thank you very much for advancing fisheries management in the St. Croix watershed. Some elements of the plan (as drafted) are positive steps forward if approached as a short-term plan – that is for the next 2-3 years. Implementing this plan has the potential to increase alewife 10-fold which is an important gain over the present situation. However, significant areas of concern remain. NMFS cannot support the following implementation tasks: block Spednic fishways; block West Grand fishways. Further, NMFS recommends development of more progressive timetables for addressing the entire watershed. In addition, we also note that many more steps must be taken if this

plan were to move forward including: changes to the plan in light of public comments submitted; changes to Maine State legislation that currently limits alewife passage to only about 2% of its historic habitat in the St Croix; and the commitment of fiscal and personnel resources by a variety of agencies and stakeholders. Given the uncertainty and the likely time delays with this path forward, we are recommending that the IJC utilize its authority to secure river herring passage at this time.

We suggest that the St. Croix Fisheries Steering Committee be reconvened on a regular basis to review and discuss available information on progress with river herring recovery and the distribution and abundance of other species in the St. Croix watershed, including smallmouth bass. We thank you for your commitment to the successful resolution of these issues. We look forward to an open discussion of these issues at the public meeting on August 4, 2010.

Sincerely,

  
Patricia A. Kurkul  
Regional Administrator

CC

William Nicholas, Governor, Indian Township Tribal Government  
Richard Doyle, Governor, Pleasant Point Tribal Government  
George Lapointe, Maine Department of Marine Resources  
Roland Martin, Maine Department of Inland Fisheries and Wildlife  
Marvin Moriarty, US Fish and Wildlife Service  
Bill Appleby, Environment Canada  
John Dieffenbecker-Krall, Maine Indian Tribal-State Commission  
Robert Reynolds, International Joint Commission



## Citations

Atlantic States Marine Fisheries Commission (ASMFC). 2009. Amendment 2 to the Interstate Fishery Management Plan for Shad and River Herring (River Herring Management). May 2009.

Collette, B.B. and G. Klien-MacPhee [eds]. 2002. Bigelow and Schroeder's Fishes of the Gulf of Maine. 2002. Bruce B. 3<sup>rd</sup> edition. Smithsonian Institution Press.

Flagg, L.N. 2007. Historical and Current Distribution and Abundance of the Anadromous Alewife (*Alosa pseudoharengus*) in the St. Croix River. A Report to the State of Maine, Atlantic Salmon Commission. May 30, 2007.

International Joint Commission (IJC). 2008. Annual Report of the International St. Croix River Watershed Board covering The Orders of Approval with respect to the control of the discharge of the St. Croix River at Forest City, Vanceboro, and the water levels of East Grand Lake, Spednic Lake, Grand Falls Flowage and Milltown Dam Forebay and The Water Quality and Aquatic Ecosystem Health of the St. Croix River Boundary Waters.

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Post, DM, EP Palkovacs, EG Schielke, and S I Dodson. 2008. Intraspecific variation in a predator affects community structure and cascading trophic interactions. Ecology, 89(7), 2008, pp. 2019–2032

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# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

300 Westgate Center Drive  
Hadley, MA 01035-9589



In Reply Refer To:  
FWS/Region 5/ES

JUL 19 2010

Philip T. Feir  
Colonel, U.S. Army  
St. Croix Int'l Watershed Board  
696 Virginia Road  
Concord, MA 01742-2751

Dear Mr. Feir:

The U.S. Fish and Wildlife Service (Service) appreciates the opportunity to review the Proposal for Discussion, an adaptive plan for managing alewife in the St. Croix River Watershed, Maine, and New Brunswick, dated April 23, 2010. Since 1995, the Service has supported the restoration of native diadromous fish, including alewife, blueback herring, and American eel, to the watershed. Restoring these species to historic habitat in the Gulf of Maine is a priority for the Service. Providing unrestricted free passage of alewife to the St. Croix River watershed will contribute significantly toward this goal.

In response to the December 4, 2009, request by the International Joint Commission (IJC), the Service agreed to participate on the Fisheries Steering Committee (FSC) for the St. Croix River, along with other Federal, State, and Provincial fisheries management agencies. The FSC was charged with drafting a science-based adaptive management plan for the restoration of diadromous alewives to a portion of the St. Croix watershed. We appreciate the leadership of the IJC and the participating agencies to draft a plan that adopts a collaborative effort with multiple partners. As a contributor to the plan, we are aware of the hard work and thought that went into the plan, and of the plan's strengths and weaknesses.

We provide the following comments for your consideration.

### General

The plan presents a systematic approach toward providing fish passage to only one-third of the St. Croix watershed while maintaining the smallmouth bass fishery at current or higher levels. The plan also presents a precautionary approach to managing alewife in order to maintain the economically important sport fishery for smallmouth bass while constraining alewife restoration.

Once the fishways are open, it is expected to take decades for the alewife run to recover to even a portion of what the run was prior to the closure of the fishways in 1995. To contribute most significantly to our alewife restoration goals, the entire run should be passed throughout the watershed in perpetuity beginning in Spring 2011.

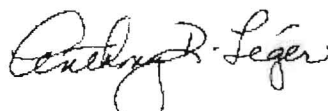
We concur that collecting and monitoring data at strategic locations is critical to providing information on the ecology of the alewife restoration, and to direct adaptive management of fisheries throughout the watershed.

There are several specific issues related to this as noted:

1. The LIC charged the FSC to use the best available science to develop a plan to restore the sea-run alewife population to the St. Croix watershed while maintaining the smallmouth bass fishery. However, prior to the review of such science, the scope of the plan was restricted to the habitat area located downstream of the West Grand and Vanceboro fishways. In order to be a comprehensive watershed plan, and based on the best available science as presented in the plan and elsewhere, we recommend the plan provide for unrestricted alewife passage throughout the watershed with monitoring to inform and guide adaptive management decisions.
2. Monitoring data should be collected to provide information on the ecology of the alewife recovery and smallmouth bass populations to adaptively manage fisheries throughout the watershed. Specifically, we recommend annual fish counts and biological data collection at Milltown and Grand Falls. At Vanceboro, a decisionmaking process to monitor and pass alewife based on ecological balances, while monitoring all variables that affect small bass populations, is appropriate. Concurrently, any research needs related to West Grand Lake hatchery concerns and alewife restoration should be identified and addressed in the plan as well.
3. The adaptive management portion of the plan on page 18 should be developed to provide a more detailed and specific process that includes measureable criteria to evaluate and adapt the plan on an annual basis; develop alternatives to the process that is currently in this plan; identify the needs for additional alewife-bass interaction monitoring, such as the benefits of alewives on smallmouth bass growth; identify participants in the small interagency group identified in the plan; and list specific timelines for each of these tasks.

We encourage and support the ongoing work to restore native diadromous fish to the St. Croix River watershed and will continue to provide technical assistance and support to reach this goal.

Sincerely,



Marvin E. Moriarty  
Acting Regional Director

Identical letter sent to:

Bill Appleby

cc: Hugh Akagi, Passamaquoddy St. Croix Schoodic Band Chief  
Richard Doyle, Passamaquoddy at Pleasant Point Tribal Governor  
John Dieffenbacher-Krall Maine Indian Tribal-State Commission Commissioner  
Patricia Kurkul, NOAA Northeast Region Regional Administrator  
George Lapointe, MDMR Commissioner  
Roland Martin, MIFW Commissioner  
William Nicholas, Passamaquoddy at Indian Township Tribal Governor  
Greg Stevens, Fisheries and Oceans Canada, Resource Manager Senior Advisor  
Hon. Wally Stiles, New Brunswick Dept of Natural Resources Minister  
D.J. Monette, External Affairs Native American Liaison